to the line of sight is 240 kilometers (150 miles) per second. This is by far the largest cross-motion assigned for any of the stars whose parallaxes have been measured.

Inasmuch as the proper motion, both in arc and in linear measure, takes account of the component of motion at right angles to the line of sight, it is of unusual interest to have a determination of the component of speed in the line of sight. This determination has been made with the Mills spectrograph, after replacing its three dense prisms by one light prism.

Four spectrum photographs have been secured in the past two months, of which two are very satisfactory, and one is excellent. The results given by the four are in substantial agreement; those given by the best two are — 93 and — 97 kilometers (58 and 60 miles approach) per second, respectively. Their mean value, -95^{km}, is possibly uncertain to the extent of five kilometers.

In view of the very great uncertainty existing in the value of the parallax, no interest attaches to the value of the angle resulting for the direction of the star's motion in space.

Gr. 1830 is of the 6.5 visual magnitude. The photographic magnitude on the Draper Catalogue standard, must be in the vicinity of 7.5, though this catalogue assigns it as 6.63. The spectrum is approximately of the solar type, though it may incline strongly toward the characteristics of *Procyon* or *α Persei.*

The best photograph was secured with an exposure of two hours, in average seeing, using slit-width $0^{mm}.032$. The measurable lines on the plate are between λλ 4000 – 4415. The region λ 4415 – Hβ is over-exposed. The spectrum is about $0'.25$ in width. The light flint prism gives about two ninths as much dispersion as the three Mills prisms.

The greatest interest of the observations lies in the fact that fairly accurate determinations of stellar velocities are shown to be possible down to the eighth or ninth photographic magnitudes, provided their spectra contain well-defined lines.

W. W. CAMPBELL.

COMET NOTES.

Professor KREUTZ has computed elliptic elements for Comet *c* 1900 (GIACOBINI) which show that it is a member of the same group to which Comet Wolf and Comet Barnard belong. The periodic time is a little less than seven years. Long-continued

cloudy weather during January and February made it impossible to follow this object as closely as was desirable. Observations were secured with the 12-inch on January 13th and 15th, and with the 36-inch on February 15th. The observed places are in good agreement with those computed from the elliptic elements.

On February 15th the comet was a very difficult object to measure, even with the great refractor, and on March 8th it could not be seen at all, though the conditions were good.

Comet Brorsen, which was expected to return to perihelion in January, was looked for with the 36-inch telescope on several mornings in February, but without success. The atmospheric conditions during the search were good, and a field about two degrees square was examined on each night.

R. G. AITKEN.

SOME STARS WITH LARGE RADIAL VELOCITIES.

While pursuing the regular programme of observation with the Mills spectrograph, it was found that the following stars have large velocities in the line of sight, as indicated below:—

ϵ *Andromedæ* ($\alpha = 0^h\ 33^m$; $\delta = +\ 28^\circ\ 46'$).

1898, October 4	$-\ 83.4^{km}$	WRIGHT.
October 9	$-\ 83.3$	WRIGHT.
1899, August 29	$-\ 84.6$	WRIGHT.
1900, August 22	$-\ 83.4$	WRIGHT.
Mean,	$-\ 83.7$	

μ *Cassiopeiæ* ($\alpha = 1^h\ 0^m$; $\delta = +\ 54^\circ\ 20'$).

1900, September 9	$-\ 97.2^{km}$	WRIGHT.
September 18	$-\ 97.0$	WRIGHT.
December 11	$-\ 98.$	CAMPBELL.

The proper motion of μ *Cassiopeiæ* is $3''.75$ per year. JACOBY'S parallax, determined from the Rutherford photographs, is $0''.275$. These correspond to a motion at right angles to the line of sight of 66^{km} per second, though this includes nearly the full component of the motion of the solar system.

δ *Leporis* ($\alpha = 5^h\ 47^m.0$; $\delta = -\ 20^\circ\ 54'$).

1900, December 24	$+\ 95^{km}$	CAMPBELL.
December 25	$+\ 96$	CAMPBELL.
December 30	$+\ 94$	CAMPBELL.